

REMARKS

Claims 2 – 3 and 10 – 11 have been cancelled. Claims 1, 4, 6, 8, 13, 21, and 24 have been amended to clarify the subject matter regarded as the invention. Claims 1, 4 – 9, 12 – 28 are pending.

The Examiner has rejected independent claims 1 and 21 under 35 U.S.C. 103(a) as being unpatentable over Felix et al. in view of Yoshida.

The rejection is respectfully traversed. Independent claims 1 and 21 have been amended to recite “convolutionally encoding data to be transmitted over the wireless channel; repetition encoding the convolutionally encoded data, wherein repetition encoding is performed in the frequency domain prior to processing by an Inverse Fast Fourier Transform (IFFT); processing the repetition encoded data using the IFFT, wherein frequency domain information is transformed into time domain information.” For convenience and without limitation, two embodiments of amended claims 1 and 21 are shown in Figures 2A and 3A. In the transmitter embodiment of Figure 2A, convolutional encoder 202 is followed by repetition encoder 206, which is in turn followed by IFFT 210. Similarly, in the embodiment shown in Figure 3A, convolutional encoder 302 is followed by repetition encoder 304, which is followed by IFFT 310. In Figures 2 and 3, Felix et al. show fundamental and supplemental channel circuitry (respectively) that contain a convolutional encoder (212 and 312) followed by a symbol repeater (215 and 316). In Figure 12 of Yoshida, a repetition encoder 81A is shown in parallel with a convolutional encoder 82A where the repetition encoder operates on some bits and the convolutional encoder operates on the other bits. Neither Felix et al. nor Yoshida, alone or in combination, describe “convolutionally encoding data to be transmitted over the wireless channel; repetition encoding the convolutionally encoded data, wherein repetition encoding is performed in the frequency domain prior to processing by an Inverse Fast Fourier Transform (IFFT); processing the repetition encoded data using the IFFT, wherein frequency domain information is transformed into time domain information” as recited in amended claims 1 and 21. For example, neither Felix et al. nor Yoshida show an IFFT. It is therefore believed that independent claims 1 and 21 are allowable.

Claims 4 – 7 and 22 – 23 depend from claims 1 and 21 (respectively) and are believed to be allowable for the same reasons described above.

The Examiner has rejected independent claims 8 and 24 under 35 U.S.C. 103(a) as being unpatentable over Pauls in view of Yoshida.

The rejection is respectfully traversed. Independent claims 8 and 24 have been amended to recite “processing the received convolutionally encoded and repetition encoded data using a Fast Fourier Transform (FFT), wherein time domain information is transformed into frequency domain information; combining the repetition encoded data to produce combined data, wherein combining is performed in the time domain after processing by the FFT; and decoding the combined data.” For convenience and without limitation, two embodiments of amended claims 8 and 24 are shown in Figures 2B and 3B. In the receiver embodiment of Figure 2B, FFT 220 is followed by data combiner 216, which is followed by Viterbi decoder 212. In the receiver embodiment of Figure 3B, FFT 320 is followed by data combiner 314, which is followed by Viterbi decoder 312. In Figure 1 of Pauls, transmitter 10 includes convolutional encoders 12 and 16. In Figure 12 of Yoshida, a repetition encoder 81A is shown in parallel with a convolutional encoder 82A where the repetition encoder operates on some bits and the convolutional encoder operates on the other bits. Neither Pauls nor Yoshida (alone or in combination) describe “processing the received convolutionally encoded and repetition encoded data using a Fast Fourier Transform (FFT), wherein time domain information is transformed into frequency domain information; combining the repetition encoded data to produce combined data, wherein combining is performed in the time domain after processing by the FFT; and decoding the combined data” as recited in claims 8 and 24. For example, neither Pauls nor Yoshida show an FFT. It is therefore believed that claims 8 and 24 are allowable.

Claims 9, 12 – 20 and 25 – 28 depend from claims 8 and 24 (respectively) and are believed to be allowable for the same reasons described above.

The foregoing amendments are not to be taken as an admission of unpatentability of any of the claims prior to the amendments.

Reconsideration of the application and allowance of all claims are respectfully requested based on the preceding remarks. If at any time the Examiner believes that an interview would be helpful, please contact the undersigned.

Respectfully submitted,

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